

REMARKS

Claims 1-30 stand rejected under §101 as lacking practical application.

Applicants amend Claim 1 to recite statutory subject matter, namely, preparing to copy data, using the cross-reference. (No amendment was made in response to the prior art.) Applicants thank the Examiner for the language suggestion.

Applicants also amend Claim 1 to further distinguish the prior art.

Claims 1-30 also stand rejected under §102 as anticipated by Mimatsu et al., U.S. Patent Application Publication No. 2004/0111485. Applicants respectfully traverse the rejection.

Mimatsu does not teach or suggest *"adding [a] pair, by information other than first device identifiers, to a copy group already containing another storage-device pair"* as now recited in all of the claims. The Mimatsu API control block only identifies the two disk volumes in a copy pair. The API control block cannot identify more disk volumes than the two in a single copy pair.

The Office Action proposes virtual volume identifier 8103, 8104 as the recited information other than first device identifiers and proposes the first column of figure 3 (element 3101) as the recited group.

But FIG. 3 illustrates a disk-volume-management table) for managing a disk volume. BRIEF DESCRIPTION OF THE DRAWINGS; ¶0051. ¶0053 describes the construction of the FIG. 3 disk-volume-management table ("DVM table"). As each single disk volume is recognized, a single line is added to the DVM table. Thus, the construction of the DVM table does not involve pairs of storage devices as recited in all of the claims.

The DVM table does not group pairs of disk volumes. It isn't the purpose of the DVM table to group pairs of storage devices as recited in all of the claims. Instead, a DVM table associates a single disk volume with a single API. ¶0051-0053. But an API is not a copy group; it is an application programming interface. ¶0052.

A copy pair differs from a copy group. (Indeed, the term "copy group" may be better phrased as "copy-pair group.") The invention facilitates managing multiple copy pairs by allowing a group of copy pairs to be defined and allowing operations to be specified for all pairs in the copy group. Specification at page 15, lines 4-6.

At the points indicated in the Office Action, Mimatsu does not teach or suggest grouping a pair of storage devices in a copy group by information other than first device identifiers as recited in all of the claims.

At the points indicated in the Office Action, Mimatsu does not teach or suggest *"identifying the copy group"* as recited in all of the claims. The Office Action proposes that the recited language reads on Mimatsu's "saving the pair as API control block shown in figure 8, called func1 as example; paragraph 61."

Firstly, Mimatsu does not identify a copy group — not unexpected when the reference forms no copy group.

Secondly, the FIG. 8 API control block only identifies the two disk volumes in a copy pair. The block does not and indeed has no provision to identify a copy group to which the copy pair belongs.

Thirdly, ¶0061 makes no mention of copy groups.

The reference in the Office Action to func1 is unavailing. Func1 is a disk-volume-specific instruction — not an identification of a copy group, and not a copy group itself. ¶0061.

At the points indicated in the Office Action, Mimatsu does not teach or suggest identifying copy groups as recited in all of the claims.

At the points indicated in the Office Action, Mimatsu does not teach or suggest *"cross-referencing the copy-group identifier and the first device identifiers of the pair"* as recited in all of the claims. The Office Action proposes the relationship of the device identifiers 14106 and the copy-pair API 14107 (FIG. 14, ¶0077) as the recited cross-referencing.

Firstly, Mimatsu does not cross-reference a copy-group identifier — not unexpected when the reference does not identify a copy group.

Secondly, FIG. 14 illustrates another DVM table. BRIEF DESCRIPTION OF THE DRAWINGS. As such, it too associates a single disk volume with now plural APIs. ¶0077. But, again, an API 14107 is not a copy-group identifier; it is an application programming interface. ¶0052.

It is not clear that an API 14107 can uniquely identify a single copy pair, let alone a group of copy pairs as recited in all of the claims.

At the points indicated in the Office Action, Mimatsu does not teach or suggest cross-referencing the copy-group identifier and the first device identifiers of the pair as recited in all of the claims.

At the points indicated in the Office Action, Mimatsu does not teach or suggest *“receiving a first input specifying one or more first device identifiers”* or *“obtaining one or more hardware addresses in response to the first input”* as recited in Claims 2-5 and 12-15. The Office Action proposes the Mode Select and Mode Sense instructions as the first input and points to ¶0051.

Firstly, ¶0051 does not teach or suggest that the Mode Select or the Mode Sense instruction specifies a first device identifier.

Secondly, ¶0051 does not teach or suggest that any hardware address is obtained in response to a Mode Select or Mode Sense instruction. Indeed, ¶0051 does not teach or suggest what is to be done when a Mode Select or Mode Sense instruction is received.

At the points indicated in the Office Action, Mimatsu does not teach or suggest (1) receiving a first input specifying one or more first device identifiers or (2) obtaining one or more hardware addresses in response to the first input as recited in Claims 2-5 and 12-15.

At the points indicated in the Office Action, Mimatsu does not teach or suggest *“cross-referenc[ing] ... a second device identifier that is associated with the ... recording device [and that] represents the ... recording device to programs ... in the second computer”* as recited in Claims 7 and 17. The Office Action proposes computer 1201 as the recited second computer and the process described in ¶0057-0058 as the recited cross-referencing. (¶0058 points out FIG. 12, and the Office Action asserts Mimatsu's DVM table as the recited cross-referencing.)

Firstly, ¶0057-0058 do not teach or suggest a second device identifier for a recording device, let alone a recording device in a pair of recording devices, as recited in Claims 7 and 17.

Secondly, there is a fault in the logic of the rejection. The Office Action states, “Mimatsu teaches that the volumes are used by both computers. Therefore, the mappings are performed for both computers.” However, just because both computers use the same volumes does not mean that a recording device has a second identifier representing the recording device on the second computer. The two computers may use the same identifier.

Indeed, Mimatsu states that the “volume management table 16315 [has] the same configuration of the first embodiment.” ¶0089. This first embodiment of Mimatsu has only one computer. In such a single-computer embodiment, a second device identifier useful on a second computer would be superfluous.

At the points indicated in the Office Action, Mimatsu does not teach or suggest cross-referencing a second device identifier that is associated with the recording device and represents the recording device to programs in the second computer, as recited in Claims 7 and 17.

CONCLUSION

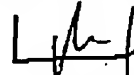
Mimatsu does not teach or suggest the invention as claimed. Applicants respectfully request reconsideration, withdrawal of the finality of the last Office Action and allowance, in view of the discussion set forth above.

Respectfully submitted,

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I certify that this Response to Office Action and any following materials are being transmitted by facsimile on October 3, 2007 to the U.S. Patent and Trademark Office at telephone number (571) 273-8300.



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